

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 March 2004 (04.03.2004)

PCT

(10) International Publication Number
WO 2004/017921 A3

(51) International Patent Classification⁷: **A61K 37/00,**
37/48

(21) International Application Number:
PCT/US2003/026591

(22) International Filing Date: 25 August 2003 (25.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/405,388 23 August 2002 (23.08.2002) US

(71) Applicant: **ZYMOGENETICS, INC.** [US/US]; 1201
Eastlake Avenue East, Seattle, WA 98102 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **ÖHRSTRÖM, Jan,**
K. [DK/US]; 2241 82nd Avenue, S.E., Mercer Island, WA
98040 (US).

(74) Agent: **BOGDEN, James, M.;** ZymoGenetics, Inc., 1201
Eastlake Avenue East, Seattle, WA 98102 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
1 July 2004

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: METHOD FOR TREATING INFLAMMATORY BOWEL DISEASE

(57) Abstract: A method for treating inflammatory bowel disease by administering interferon beta in conjunction with factor XIII to a mammal afflicted with the disease. The IBD may either be ulcerative colitis or Crohn's disease. The factor XIII used may be recombinant or nonrecombinant. The interferon beta used can be naturally occurring interferon beta, interferon beta-1a or interferon beta-1b.



WO 2004/017921 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/26591

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 37/00, 37/48

US CL : 514/12, 21

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 514/12, 21

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,378,687 A (URABE et al) 03 January 1995 (03.01.1995), see entire documents, abstract.	1-13
Y	Database MEDLINE on STN Online, No. 1998411071, NIELSEN et al. 'Inflammatory Bowel Disease: Potential Therapeutic Strategies,' abstract, Cyotkines, Cellular and Molecular Therapy, December 1997, Vol. 3, No. 4, pp. 257-81.	5
Y	Database MEDLINE on STN Online, No. 97143819, LORENZ et al. 'Factor XIII in Chronic Inflammatory Bowel Disease,' abstract, Seminars in Thrombosis and Hemostasis, 1996, Vol. 22, No. 5, pp. 451-5.	1-13
Y	Database CAPLUS on STN Online, No. 2002:704002, MUSCH et al. 'Induction and Maintenance of Clinical Remission by Interferon Beta in Patients with Steroid-Refractory Active Ulcerative Colitis-an Open Long-Term Pilot Trial', abstract, Aliment Pharmacol Thera. July 2002, Vol. 16, No. 7, pp. 1233-9.	1-13
Y	Database GOOGLE.COM, FRIEDMAN, R. 'DDW: Interferon Beta-1a Promising in Ulcerative Colitis,' abstract, Doctor's Guide, May 2002.	1-13



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

18 April 2004 (18.04.2004)

Date of mailing of the international search report

17 MAY 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Brian Kwon

Telephone No. 703-308-1235

INTERNATIONAL SEARCH REPORT

PCT/US03/26591

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	Database MEDLINE on STN Online, No. 2003404119, NIKOLAUS et al. 'Interferon.Beta.-1 a in Ulcerative Colitis: a Placebo Controlled, Randomized, Dose Escalating Study,' abstract, Gut, September 2003, Vol. 52, No. 9, pp. 1286-1290.	1-13

INTERNATIONAL SEARCH REPORT

PCT/US03/263

Continuation of B. FIELDS SEARCHED Item 3:

STN ONLINE

search terms: interferon beta, ITF-beta-1a, ulcerative colitis, Chron's disease, inflammatory bowel disease (IBD), factor XIII